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# ✓ ADDRESS

TO THE

MEMBERS OF THE MASSACHUSETTS MEDICAL SOCIETY.

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At the annual meeting of the Society on the 31st of May, 1843, a resolution relative to the registration of diseases and their coexisting circumstances and results was adopted, and the whole subject of consideration and action referred to the Counsellors.

At the meeting of the Counsellors on the 1st of June following, they appointed a committee, consisting of Drs. John D. Fisher, of Boston, George Cogswell, of Bradford, and John Ware, of Boston, "to consider and report upon the plan proposed by Dr. Fisher, (of the Society's engaging in a series of statistical and other investigations,) at the next annual meeting."

At the February meeting of the Counsellors, the committee made the following Report.

*To the Counsellors of the Massachusetts Medical Society :*

Gentlemen,—

The committee appointed by you in June, 1843, to consider the resolve adopted by the society at its last annual meeting, and referred to the Counsellors, in the following words, "that the Counsellors be requested to consider whether this society may not effectively engage in a series of statistical and other investigations, which would be advantageous to Medical Science and Public Hygiène," have considered the subject, and ask leave to offer the following

## REPORT.

The Massachusetts Medical Society was organized and entered upon its labors in 1781. In accepting its charter it acknowledged "that

health is essentially necessary to the happiness of society," and at the same time assumed an obligation to promote it, in its associate capacity, by all the means in its power.

Has this obligation been fully redeemed? Your committee feel an honest pride in contemplating the results, which the society has accomplished. It has elevated the standard of medical education, promoted the progress of medical science, and been the means of providing the people of the State with a class of intelligent and accomplished medical advisers, worthy of their highest regards, and into whose hands they may safely entrust their lives when in peril from disease.

A part then of the object of its organization has been accomplished by the society; but, in the opinion of your committee, its whole obligation has not yet been cancelled. In their collective and in their individual capacity, the members of the society have devoted their powers mainly to the study of the nature and cure of diseases; while to the investigation of the agents which produce disease, or in other words, the study of their prevention, they have not, at least in their associated capacity, done any thing worthy of the importance of the subject or of the profession.

It was to direct the attention of the society to this great object, that the resolution under consideration was submitted to it at its last meeting. In the whole range of medical inquiry there is no one, which, in the opinion of your committee, equals it in importance, and no one in the investigation of which the society can engage with equal facility, or with the prospect of so much advantage to medical science and to the welfare of the community. The subject is a vast one. It comprises a consideration of all the agents, moral, material and social, which affect the vitality of our organization. But it is one which the members of the society can do much to exhaust, and the extent of the undertaking should rather prove a spur to their ambition, than its difficulty be allowed to deter them from its investigation.

In regard to the pathology and treatment of disease, neither the physicians of this State, nor country, can expect, for the want of extensive fields of observation, to rival their European brethren. But there is a vast field as yet comparatively unexplored by the latter, and for the examination of which the American physician is peculiarly qualified,—the causes of disease. In a country of such recent exploration, and especially to us whose State is so regularly divided, it would be an easy matter, in our associated capacity, to accomplish a most important work in this respect, not merely for ourselves, but for future gen-

erations, the influence of which will be felt in the increase of the health of the public. The question then resolves itself into this, are we willing to direct our investigations to the causes of disease, and, by so doing, to remove the obstacles to health, and prolong the life of the individual?

In order to approximate the causes of disease, and to ascertain the value of human life, it will be necessary to investigate all those circumstances which can have any influence in the production of disease, in the impairing or shortening of life, as well as to examine the quantity, character and issue of disease, the season of the year, and the period of life at which it may occur.

For these general purposes it will be necessary to learn specifically the physical character, and the topography of every district and town; its elevation, soil, relation to running, quiet or stagnant waters, to ponds, rivers, or the sea, to swamps, low meadows, or forests; its exposure to winds or its protection from them.

It is also important to know the density of the population, in order to determine how far this has any effect in the production, continuance, or fatality of disease; whether cities, villages, or sparse districts are more favorable to health. In order to compare the amount or proportion of sickness in one place or occupation with that in another, the absolute sum of population resident in any district, or engaged in any trade or profession, among which a definite quantity of disease may be found, must be correctly ascertained.

It is commonly supposed that those residing in cities are less disposed to certain diseases, and more so to others, than those living in the country; also, that the various occupations exert an influence equally distinct in its character upon the different forms of disease. But we want sufficiently minute and extensive data to determine these questions satisfactorily.

Health is affected by the character and habits of the people; how far, and in what manner these exert an influence, yet remains to be determined. The habits of each patient must therefore be inquired into, whether he be temperate or intemperate; laborious or sedentary; active or inactive; comfortably clad, housed and nourished, or in a state of suffering and want.

The domestic and social condition of the family must also be known; the means it possesses of sustaining life; the intelligence and education of the adult patients, or of those who have the direction of the children.

Having first determined these facts and circumstances, it is next desirable to ascertain the quantity of disease, the specific disorders, their duration and termination in recovery or death; and also how many are valetudinarians, who are leading an imperfect life.

These investigations will show us how much life there ought to be, how that life is distributed, and how much it is impaired and curtailed. We shall then be able to compare the desired with the actual duration and quantity of life. We shall also learn through the lesions of what organs, or through the derangement or failure of what functions, life is diminished or extinguished; and lastly, amid what circumstances these disorders and deaths happen. Thus shall we be led toward the causes of disease and mortality.

We have ceased to believe that diseases come from any mysterious cause, from a capricious Providence, or the general judgments of Heaven, and acknowledge that they have their origin in the influence of the elements, in our constitutions and habits, in the use we make of our organs and functions.

We have no philosophy to determine, *a priori*, the effect of these various circumstances and materials upon health and longevity; we must therefore compare men and their ailments in one set of circumstances with them in another, and if from wide fields of observation we find a permanent difference between them, we may suppose there must be in or about those differing circumstances a variation of causes adequate to account for the differences of ailment. If, for example, in the districts near the sea-coast we find more consumption and other pulmonary disorder, in proportion to the population, than in the country west of the highlands in Worcester County, where the east winds do not prevail, we may infer that these winds, or other causes connected with the vicinity of the ocean, may have had some influence in the production of disease in the lungs.

The surface of Massachusetts is much diversified; some of it is low and borders upon wide meadows, which are mostly wet; some of it is elevated several hundred feet above the level of the ocean. The valley of the Concord river, from its source to its mouth, is low and flat; the stream is sluggish, with so little fall that its freshets run off very slowly. It is skirted by extensive wet meadows through Framingham, Wayland, Sudbury, Concord, Carlisle, Bedford and Billerica, which it overflows always in the spring, and often in the summer and autumn, and on slowly falling it leaves a large surface of wet soil, from which watery vapor and the emanations of decayed vegetation must be con-

tinually rising. The neighboring lands are not much raised above these meadows, and are covered with a great population. The fogs from these low grounds and the river reach all the vicinity, and create a marked difference in the temperature of the atmosphere. It is desirable to ascertain whether there are more pulmonary diseases, fevers, or rheumatisms among the inhabitants of this valley, exposed to these fogs and miasmata, than among those occupying the higher grounds of the north and centre of Worcester County.

Our knowledge with regard to the influence of trades upon health rests almost entirely upon conjecture. The Second Report to the Legislature of Massachusetts upon Births, Deaths and Marriages, states, that the average life of thirty-five blacksmiths, who died during the last year, was fifty-nine years; that of ninety-nine carpenters and one hundred and eighteen shoemakers, each forty-eight years; while seven hundred and three farmers enjoyed a life of sixty-five years. The duration of life in carpenters, who work abroad and have active exercise, when compared with that of shoemakers, who sit and live in close rooms, certainly differs from our common notion of the effect of those trades upon health, and a more extensive observation may show that the popular opinion is correct. It may be that the difference of mortality of men in various pursuits is not so much owing to their occupation as to their domestic condition.

There is reason to believe that there is a great difference in the value of life in the different conditions of society. The Report of the Poor Law Commissioners upon the sanitary condition of the laboring classes of England and Wales, shows, that while the families of gentlemen, merchants and professional men, average a life, in different places, of from 35 to 50 years; laborers, operatives, mechanics, servants, and others similarly situated, also their wives and children, averaged a life of only 15 to 35 years in various places. This difference of the value of life is not confined to England and Wales—we have obtained an analysis of the ages, and also of the domestic and social condition of 1767 persons, who have died in Dorchester within the last 27 years. By this it appears that the average duration of life in the families, (including father, mother and children,) of laborers, fishermen, journeymen mechanics and factory operatives, was . . . . 27 yrs. 5 mos. Mechanics who carry on business on their own account, 29 " 6 " Merchants, capitalists, professional and salary men, ama-

teur farmers, . . . . .	33	"	2	"
Farmers who own and cultivate their lands, . . . . .	45	"	8	"

This difference is not chargeable to the occupations merely, for it was found the most among the little children at their homes, as will be seen in the following table.

PERIODS OF LIFE AT WHICH DEATH TOOK PLACE.	NUMBER OF PERSONS DYING IN THE FAMILIES OF				
	Laborers, &c.	Mechanics.	Merch'ts, &c.	Farmers.	Total.
Under 2 years, . . .	161	115	127	33	436
“ 5 “ . . .	203	148	172	50	573
“ 20 “ . . .	244	191	235	63	733
“ 70 “ . . .	462	351	499	191	1503
Over 70 “ . . .	51	50	90	73	264

PROPORTION OF DEATHS AT EACH PERIOD TO ONE THOUSAND IN EACH CLASS.

PERIODS.	Laborers, &c	Mechanics.	Merch'ts, &c.	Farmers.	Total.
Under 2 years, . . .	313	286	215	124	246
“ 5 “ . . .	395	368	292	188	324
“ 20 “ . . .	474	476	398	237	410
“ 70 “ . . .	901	875	847	735	850
Over 70 “ . . .	99	124	152	274	149

This great difference of mortality between the children of the poor and of the comfortable farmer, cannot be caused by the employment of the head of the family. There must be a cause or causes connected with the domestic condition or management to produce this discrepancy. But it is yet a question to be resolved by farther and wider observation, whether this, although a general fact in England and Wales, is here more than a particular fact in regard to Dorchester. A similar analysis must therefore be obtained of the mortality of many towns in all parts of the State, in order to determine whether life is meted out in such various proportions to the different classes of society throughout the Commonwealth.

A decided influence is exerted upon the health and life by the moral character; yet there are no data to determine how much, or in what way this operates. The opponents of intemperance talk vaguely and largely of the effects of this vicious indulgence upon the health, but they differ widely from each other, because they have no well-digested system of facts to build their theories upon. We have but one observation, and that a limited one, taken by a physician in the course of

two years over about six hundred people in a country town of this State. They were persons whose habits were known to him, and during the period of his observations they were under his sole professional care. He kept a careful record of all their attacks and of the duration of their diseases, and compared the number of days the intemperate were sick with those of the abstemious. He ascertained that the former were sick and required his attendance fourteen per cent. each, on an average, more than the latter ; i. e. while the temperate were sick 100 days, the same number of the intemperate were sick 114 days. This is a valuable observation so far as it goes ; it shows that the alcoholic temperament or habit probably caused all the excess of disease of one class over the other. But some very important facts were not observed on account of the limited field of observation. The differences of fatality of similar diseases in these two classes, and of the average duration of life, may be and probably are greater than that of the quantity of actual disease ; but a still greater difference, it is believed, would be revealed in the infirmities, in the broken constitution and impaired lives of the intemperate.

The value of education, of intellectual culture, as a protector of health is conjectured, but not determined. In the instances already quoted of the greater mortality among the poor in England and Dorchester, it may be, that their want of education, of a knowledge of all the circumstances affecting their lives, of a quickened intellect that readily perceives danger, and finds means to avoid it, that sees remote consequences, and therefore in self-management and in family government lays no foundation of disease—it may be that the want of this information is to them as much the cause of disease and death as their want of the comforts of living. By the report of the deaths of England in 1841, it appears that the mortality among children under one year old, ranged from about seventeen per cent. of all that died in some of the most intelligent agricultural counties of Devonshire, Dorset, Cumberland, Westmoreland, and parts of Lancaster and Northumberland, to twenty-nine per cent. in the mining parts of Staffordshire, where the greatest general ignorance prevails. If this analysis had gone minutely into families, as we can carry it here in Massachusetts, instead of including all, the learned and the ignorant, the rich and the poor families of one district in one class, it would have shown a more terrible difference of mortality among the infants in the different walks of life.

These reports of deaths, which your committee propose to have

made by each member, will show only one portion, and that perhaps the worst portion, of the effects of locality, occupations, habits and circumstances on human vitality.

There is yet another tax upon life, in the whole sum and detail of curable disease. This may originate in similar causes to that which is more destructive ; it remains, therefore, to determine the amount of this, its characters, location, seasons and attendant circumstances, in order to ascertain the extent of the attenuation, as well as the shortening of life.

It is admitted that some diseases prevail more in some localities than in others—but this is rather a matter of general opinion than of positive demonstration. We know that some persons predisposed to asthma, suffer from the development of that disease, while they reside near the seacoast, but are entirely free from all its symptoms, while they reside in the valley of the Connecticut river, buried deep in the mountains. Is this a general law as to these two localities, or is it merely confined to the instances which happened to come within our knowledge ? Is asthma as frequent in the Connecticut valley as it is on the coast ? The returns of deaths to the secretary of State for the last two years, give fifteen cases of this disorder, of which one was in Worcester county, all the others were in the Eastern counties, none were west of the highlands.

Typhoid fever has prevailed very extensively and epidemically in the low grounds of Concord for the last five months, from September to January : it was there mild in its course and safe in its issue. It also prevailed in the high lands of Sunderland and Montague twelve years ago—it was there severe and frequently fatal. As these epidemics were nearly similar in their attack and progress, it is desirable to know if there were a similar cause, independent of the situations, which differed widely from each other. These epidemics have not appeared in these places in other years, as they did in the years herein specified ; the cause or causes of this disease must then have been temporary as well as local, and our investigations will be narrowed down to the places and the times, when and wherein these diseases have appeared. We desire to learn the circumstances which were peculiar to these times and places, as regards others, yet were common and alike to them, among which will probably be found the predisposing or exciting causes of this epidemic.

If diseases have a local origin, we have, so far, a means of prevention—or if too late for this, perhaps of cure, in the removal of the

patient from the cause, or the cause from the patient. If they originate in any trades, occupations, habits, customs, indulgences, or exposures, the means of prevention are not less in our hands.

Knowing then the effects of localities, seasons, employments and customs, upon the human constitution, not only in its perfect state, but in every variety of defective organization, we have the means of removing from the world a large part, if not the most, of its ailments.

In point of philanthropy and general economy, it is always important to the public that this knowledge of the prevalence and extent of diseases should be gathered, concentrated and distributed to the people. But in some cases it becomes especially important in point of political economy. When in the year 1829, the Legislature of Massachusetts proposed to establish the Lunatic Hospital, they were in want of data to determine the general ground of action. They wanted to know how many insane there were in the State, how many were dangerous, how many curable, how many would be benefited by hospital treatment? But no one could give them this information. A tale of woe had gone up from the prison houses of the suffering lunatics, and had reached the ears of the legislators in the State House, imploring them for relief. When, at length, they determined to do something, they neither consulted the Massachusetts Medical Society as to the extent or degree of the suffering to be relieved, nor asked of physicians what course was the best to be pursued. For the Medical Society had not the knowledge to give; they had taken no observations of the prevalence of insanity, nor of the condition of the sufferers. The government then, instead of asking this body of scientific men, or sending to the physicians individually, sent their circulars to the overseers of the poor, to the civil authorities, who only recognize insanity as a matter to be fed, supported, or restrained. Upon the data thus obtained, they have made a permanent investment of nearly \$150,000, and have an establishment at an annual cost of near \$30,000.

The last census of the United States attempted to make some contributions to statistical Nosology; but it contains statements in regard to the prevalence of insanity among the colored population of the free States, so palpably and so grossly erroneous, that the most superficial observer would reject them. Yet these have been published and sent forth to the world, under the authority of the national government, and reprinted by our medical and political journals, and even again publish-

ed abroad, as proofs of the liability of the colored man in a state of freedom to mental derangement. According to this calculation, every forty-third negro in Massachusetts, and every fourteenth negro in Maine, is a lunatic, and we have no data to refute the error. Fortunately the document itself supplied the means of its own refutation, in regard to the lunacy of the negro; still there may be errors equally certain, if not equally palpable, in regard to the insanity of the whites. The Medical Society can determine the truth of this matter, and whether the general opinion be correct, that we in the United States, and in New England especially, have positively a greater proportion of insanity than any other nation or country is supposed to have, and whether a high state of general education, an active and enterprising habit of a people are prejudicial to mental soundness, more than the lethargy of the masses in Europe.

The members of this Medical Society have not only the duty of healing to perform, by which they obtain for themselves honor and profit, but they have the work of prevention also, by which they may do the greatest amount of good to their fellow men. They owe it to the world and to medical science to learn, as far as possible, the vital worth of every place, occupation and circumstance, as others learn their pecuniary value, and publish this abroad, so that men may avail themselves of the best means to obtain a fullness and a length of life.

They are happily situated for this undertaking. Implanted as they are in every district and corner of the State—in towns of limited extent and well defined by geographical boundaries—and residing among an intelligent people who are ever alive to whatever may interest their individual well-being, with whose condition, character and relations to circumstances affecting health they are familiar, the members of this Society have the means of ascertaining almost the whole amount, kind and degree of disease, as well as the times, circumstances and causes of almost all the mortality within this Commonwealth. There is then a responsibility for the use of these means, and for accomplishing this good, resting upon this society, which ought to be considered, and which cannot be thrown upon the people, nor upon the government.

For these reasons, and with these facilities, your committee propose, that the Medical Society proceed at once to the investigation of the nosology and mortality of Massachusetts, and invite the coöperation of each one of its members to carry on the work.

Your committee propose, that a series of tables and questions be

printed, and sent to each one of its members, respecting the topography and meteorology of every place; the characters and condition of the people; the kinds, amounts, and issue of disease; the causes of mortality, and duration of life.

That a printed system of nosology be sent to each Fellow, and that all returns of disease be made corresponding to it.

That each Fellow not only give answers to the queries respecting the topography of his town and district in general terms, but that he also describe the sanitary condition of the residence of the patient, the time he has lived in it, his habits, occupation, &c.

That each Fellow make annual returns of these observations by mail to such committee or officers as the Counsellors may appoint to receive them.

That this committee or officers digest all these returns into one system, and print the results in a tabular form, with such descriptions and annotations as may be suggested or supplied to them, and distribute the volume, when printed, to the Fellows of the society.

All which is respectfully submitted.

JOHN D. FISHER, *Chairman.*

This report was read and accepted—and Dr. Fisher of Boston, Dr. Jarvis of Dorchester, and Dr. Holmes of Boston, were appointed a committee to lay the whole subject before the members of the society, and to devise plans and means to carry the matter into execution.

In order to carry out the purposes of the society, in this statistical investigation, it is desirable to secure the coöperation of every member.

It is proposed to obtain an accurate description of the topography, and of the physical and moral condition of the people of every place, in order to ascertain the endemic and other influences upon the health of the inhabitants.

It is also proposed that each physician should keep an exact record of each case, at least of the points which will be specified in the plan which accompanies this report. The date, name of patient, sex, color, place of birth, age, domestic condition, whether single, married or widowed, occupation, relation to occupation, site of residence, years of residence in that place, habits as to temperance, disease, duration of disease, termination, should be recorded and reported. As to the occupation, it is desirable to ascertain not only the occupation of adult males,

who may be sick, but also that of the head of every family, in which there may be sickness of the wife or children. Under this head wives will be classed with their husbands, minor children who live with their parents will be classed with them—unmarried females, if they have any especial occupation, will be so designated ; if not, and they live at service in other families, they will be designated as laborers. If not at service, nor in any especial occupation, and they retain the social position of their parents, they will be so designated. Thus the unmarried daughters of farmers, shoe-makers, physicians, &c., while they live at home, or with friends, or are self-dependent, will be classed as farmers, shoe-makers, physicians, &c.—but if at service, they will be classed with the laborers. Apprentices, clerks, students, will be classed according to their employment. Factory operatives will be classed as operatives—but it is desirable that the kind of factory, cotton, wool, nail, &c., and the especial occupation, as carder, spinner, &c., be stated.

It is desirable to know the relation of each person, or head of family, to his employment. Whether he be an under-worker as a journeyman, or carry on his trade on his own account. Whether he be a farmer managing his farm, or a laborer working for another.

As to the site of the residence, having first obtained the topographical description of the town, it will be easy first to refer the particular situation of each individual to this, and then state whether the site of the dwelling be dry or wet, low or elevated.

As to habits, it is desirable, in addition to temperance and intemperance, to know whether the individual were inactive, industrious, or over-laborious.

It is desirable that the topographical descriptions should be full and perfect at first, and when this shall be once given, it need not be repeated, unless changes take place in the physical character of the town.

The following questions occur to your committee as proper in all cases to be answered ; but it is requested that the members of the society would add such other information as may seem to them to throw any light on the endemic influences of the town, or lead to the causes of disease.

What is the size of your town or city in square miles or acres ?

What are the general features of its surface ? Hills—their height and extent ? Plains—their extent ? The general elevation of the town above tide waters ?

Forests ? waste and cultivated lands ? their extent ?

Number, size and direction of rivers and running streams ? Are

they rapid or sluggish? Have they falls? used for mills? Are they overflowed and drawn off alternately for mechanical or other purposes? Do they overflow their banks to any extent, and leave, on subsiding, upon the surface, a muddy deposit for exhalation and evaporation?

Are there ponds which are stagnant? and how large? Extent of low meadows and swamps? Are there sources of miasmata?

Are the residences of the people nearly on a level with these, or within reach of the fogs connected with them? or exhalations from them?

General character of the soil and the subsoil?

Agricultural productions?

In regard to Meteorology, observations should be made in a register on the following points:

1. The temperature of each day, as measured by uniform thermometers.
2. The varying pressure of the atmosphere, measured by uniform barometers.
3. The amount of rain that falls, measured by uniform rain-gages.
4. The number of fair—cloudy—stormy days.
5. The direction, &c. of the winds.

In regard to the civil and social condition of the citizens, the following circumstances should be referred to, viz.:

1. The amount of population of the town.
2. Their general character for intelligence—habits—morals—industrious—economical, and pecuniary condition.
3. The number of families employed in different occupations.
4. The insane—blind—deaf mutes.

In order to carry out the plan we have in view, and to render the knowledge of diseases and of the causes of death valuable to science, and available for the elucidation of the laws of hygiène, a uniform plan of designating each disease must be adopted.

“A uniform nomenclature is of as much importance in this department of inquiry as weights and measures are in the physical sciences.” The adoption of such a one must be a preliminary step by the society, and its subsequent use by the members an essential requisite in their records and reports.

After devoting much attention to this subject, and examining the various plans of registration of diseases and causes of death, no one has

appeared to the committee so perfect and so well adapted to our purposes, as the one prepared by Dr. Farr, and used in England by the Registrar-General in his reports. It is simple and comprehensive.

The members of the society are requested to use this in their records and their reports of diseases and deaths.

It is requested, that these returns should include the observations and experience of an entire year, commencing the first day of January and ending the thirty-first day of December; except, however, the returns for 1844, which must include only the six months following the first day of July.

The returns should be made out according to the formula, which is included in this report, and include notices of all the topics therein specified, and such other observations or suggestions as may occur to any member of the society. These should be sent, by mail or otherwise, in the months of January or February, to the Secretary of the Medical Society, who will deliver them to the Committee of Registration.

JOHN D. FISHER,

EDWARD JARVIS,

O. W. HOLMES,

*Committee.*

*Boston, March, 1844.*

## REGISTER OF DEATHS in the Town of

## County of

## and State of Massachusetts, for 1844.

Number.	NAME.	Date of Death.	Age.	Sex.	Color.	Place of Birth.	Occupation, (do. of parent, if the deceased be a child.)	Years engaged in occupation.	Site of residence whether dry or moist; near stagnant water.	Years of residence in that place.	Was he employed for wages or his own account or for a salary.	Habits.	Absemtious or intemperate.	Disease or cause of death.	Duration of Disease in hours, days or years.
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NOTE.—The name of the individual, also the sex, condition, whether single, married or widowed; and habits, whether abstemious or intemperate, may be indicated by initials.

## REGISTER OF DISEASES in the Town of

or within the observations of the Subscriber.

Number.	Name.	Sex.	Color.	Age.	Place of Birth.	Occupation of the head of the family.	Is the head of the family employed for wages, or does he work on his own account for a salary?	Site of residence dry or moist? near stagnant waters?	Years of residence in that place.	Habits.	Absentminded or impulsive.	Disease.	Duration of Disease.	Termination, recovery, death or unchanged.
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